

FIG. 1

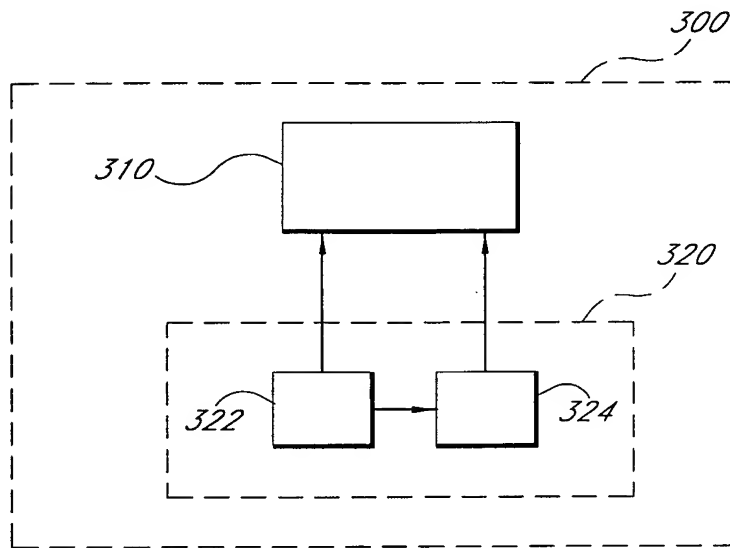


FIG. 2

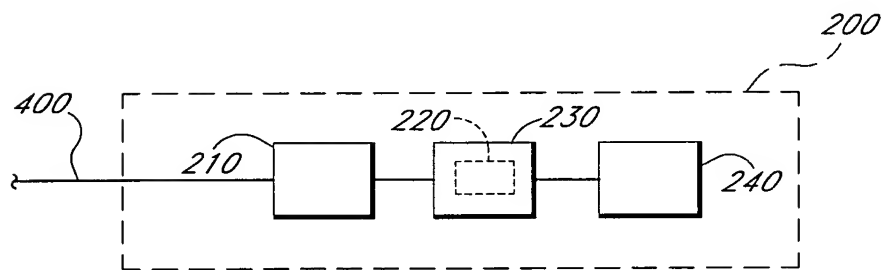


FIG. 3A

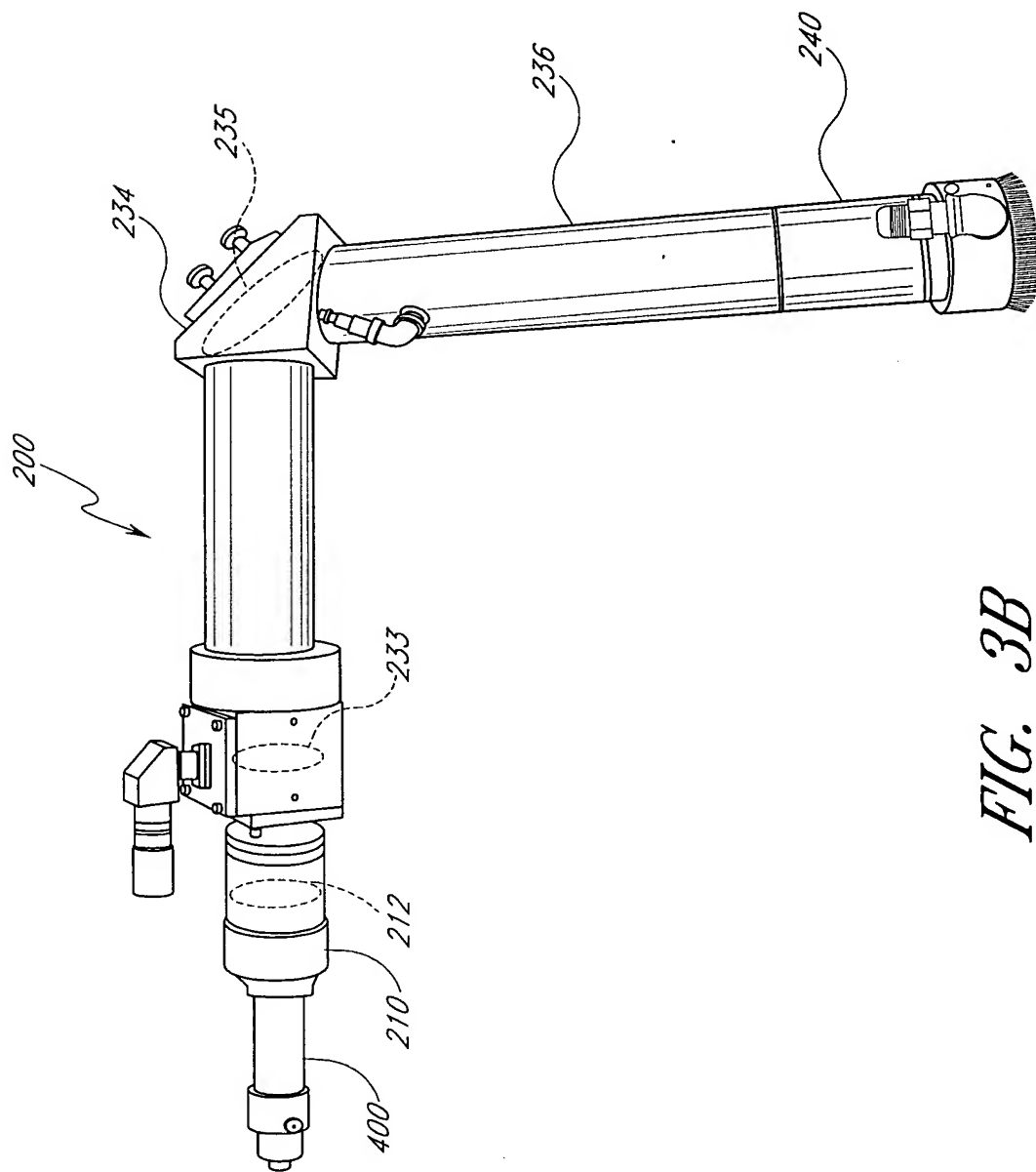


FIG. 3B

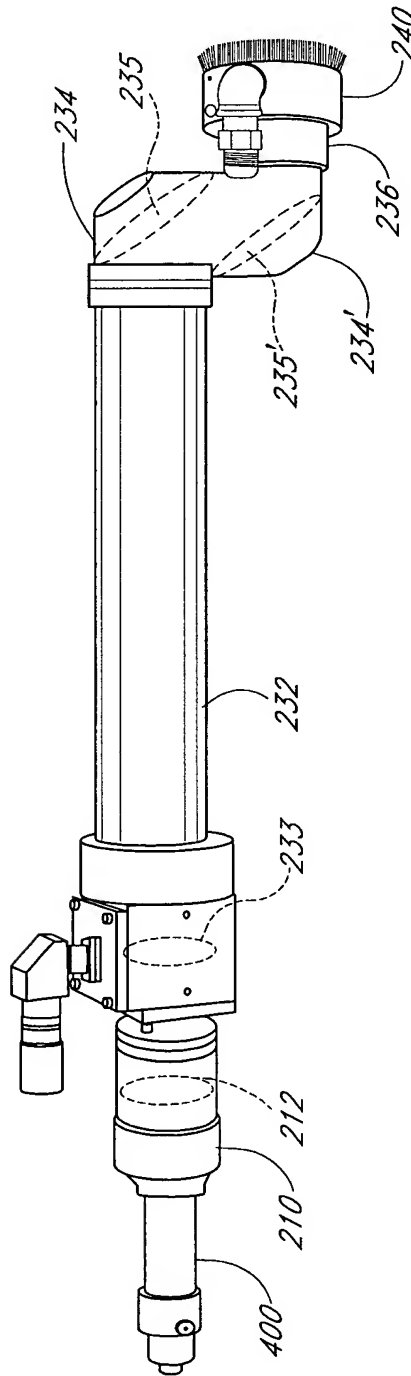


FIG. 3C

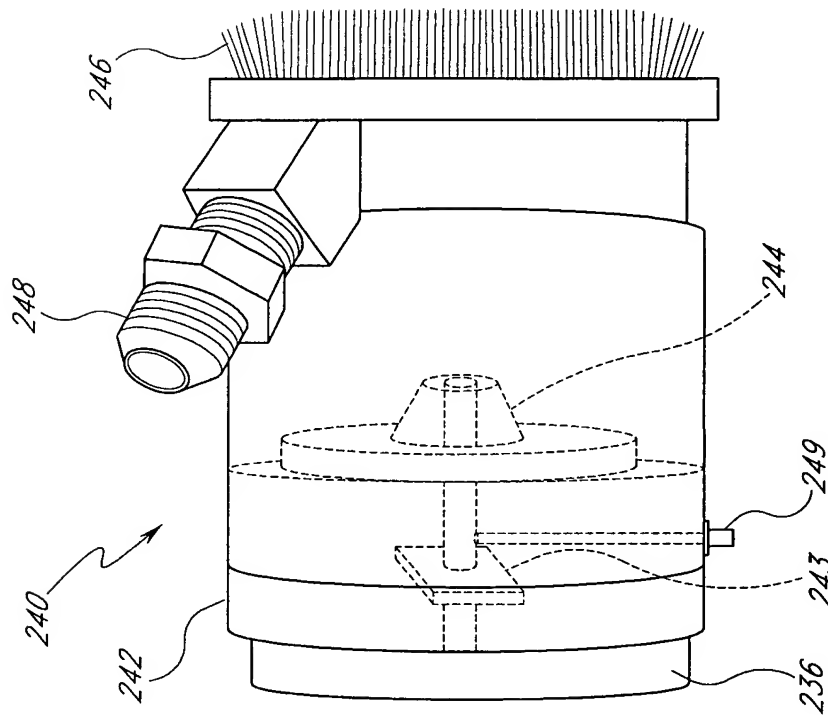


FIG. 4

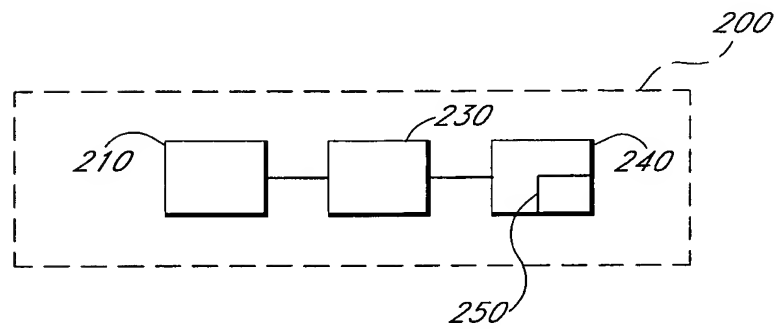


FIG. 5

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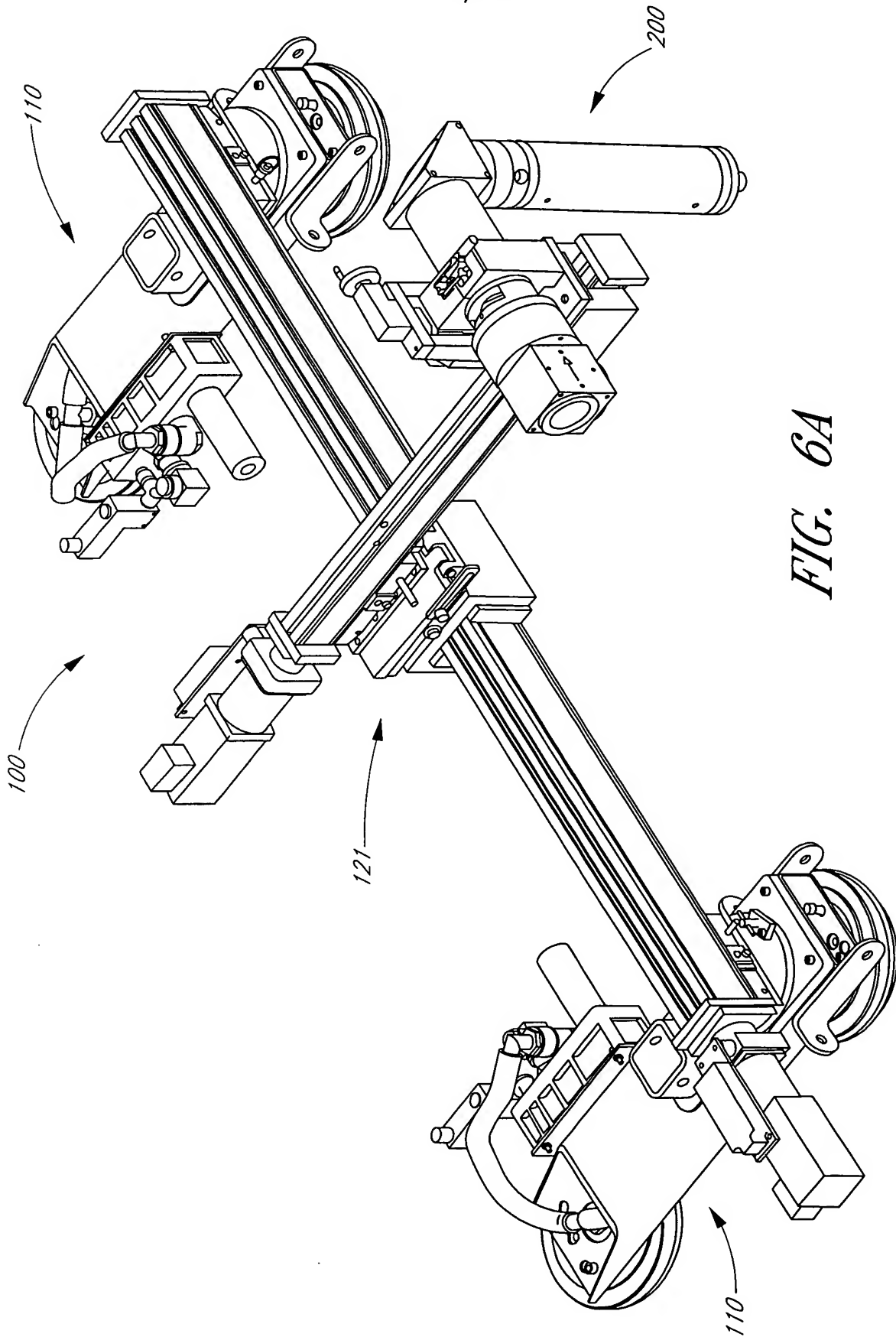
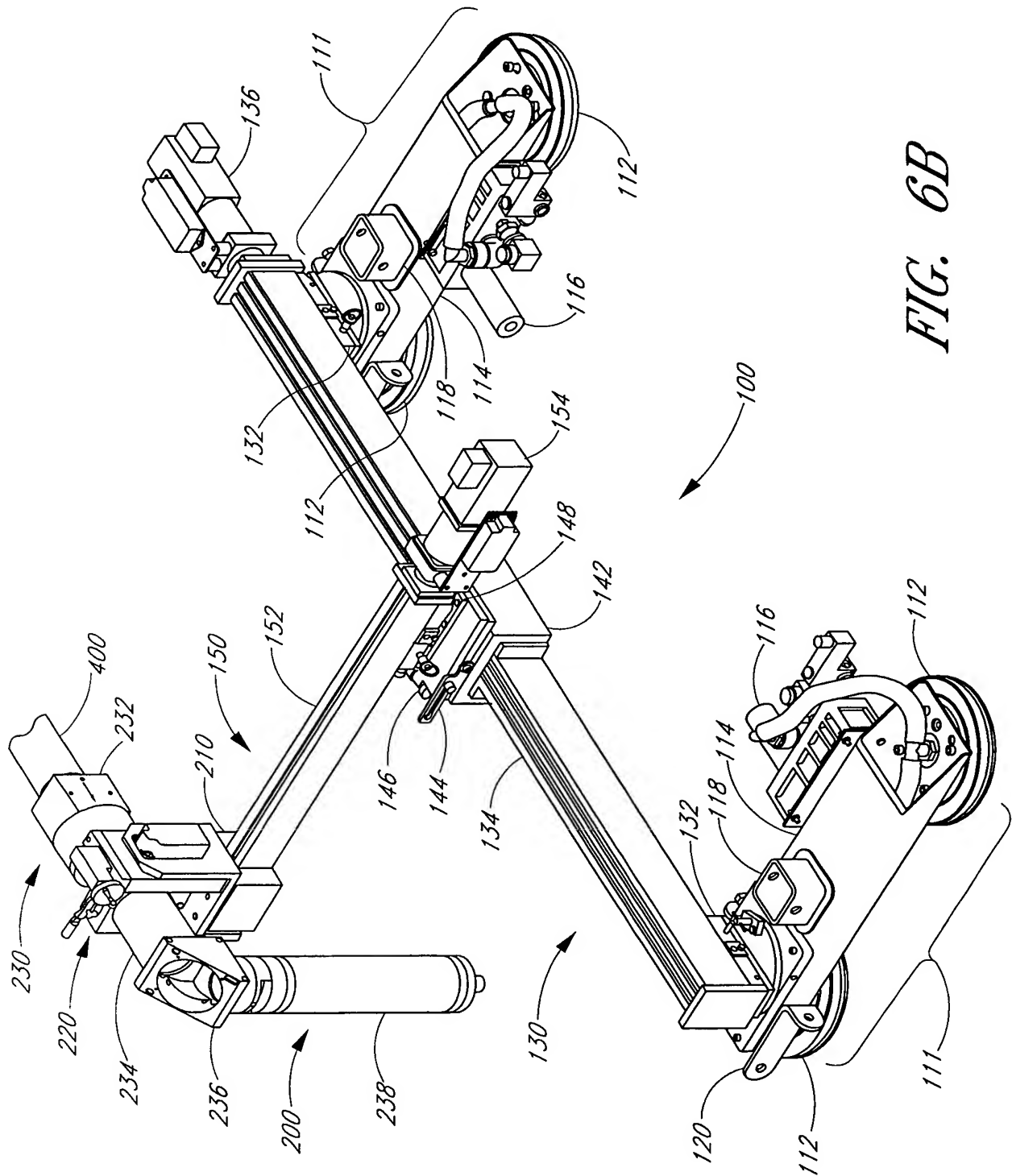


FIG. 6A



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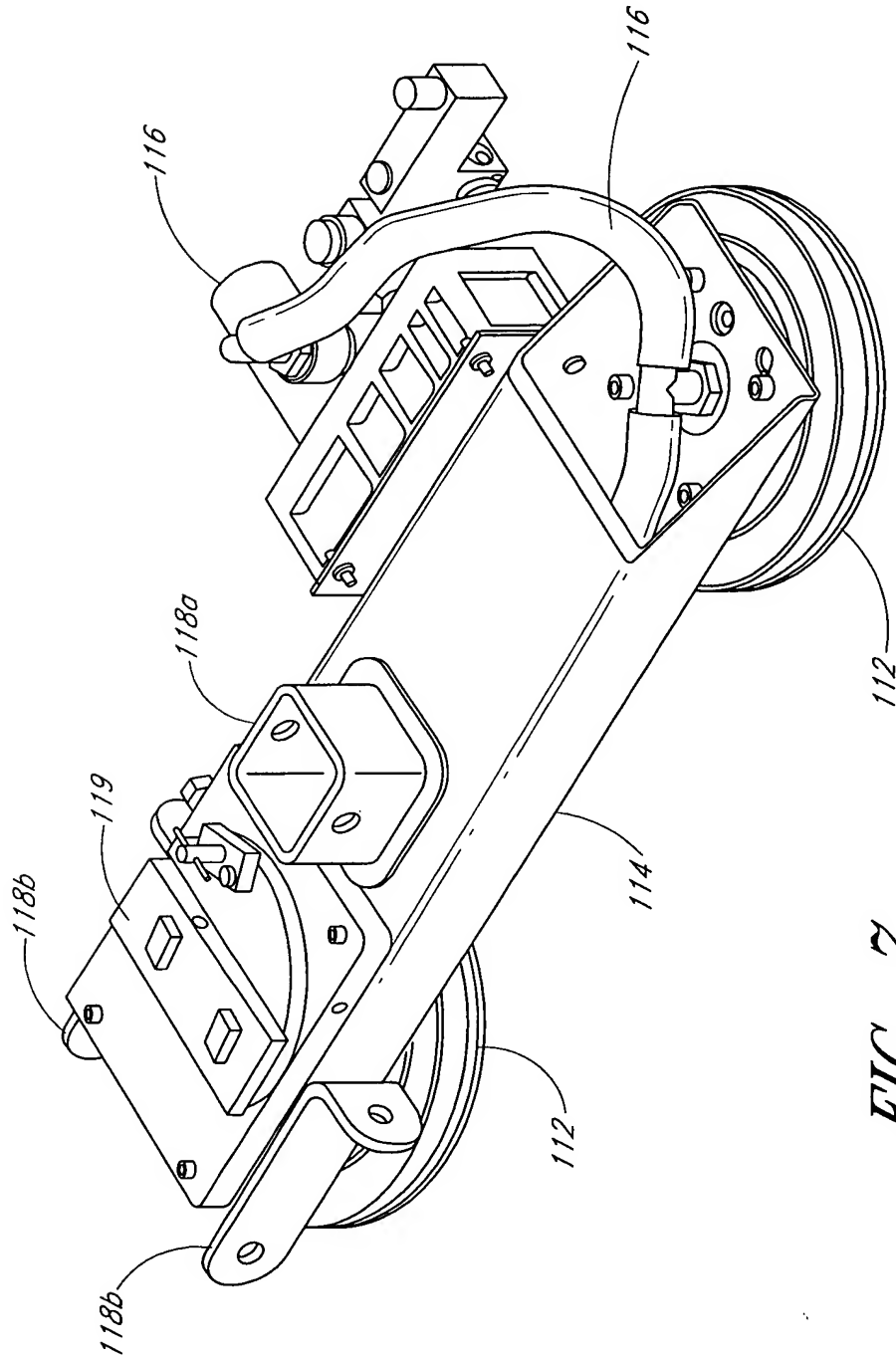
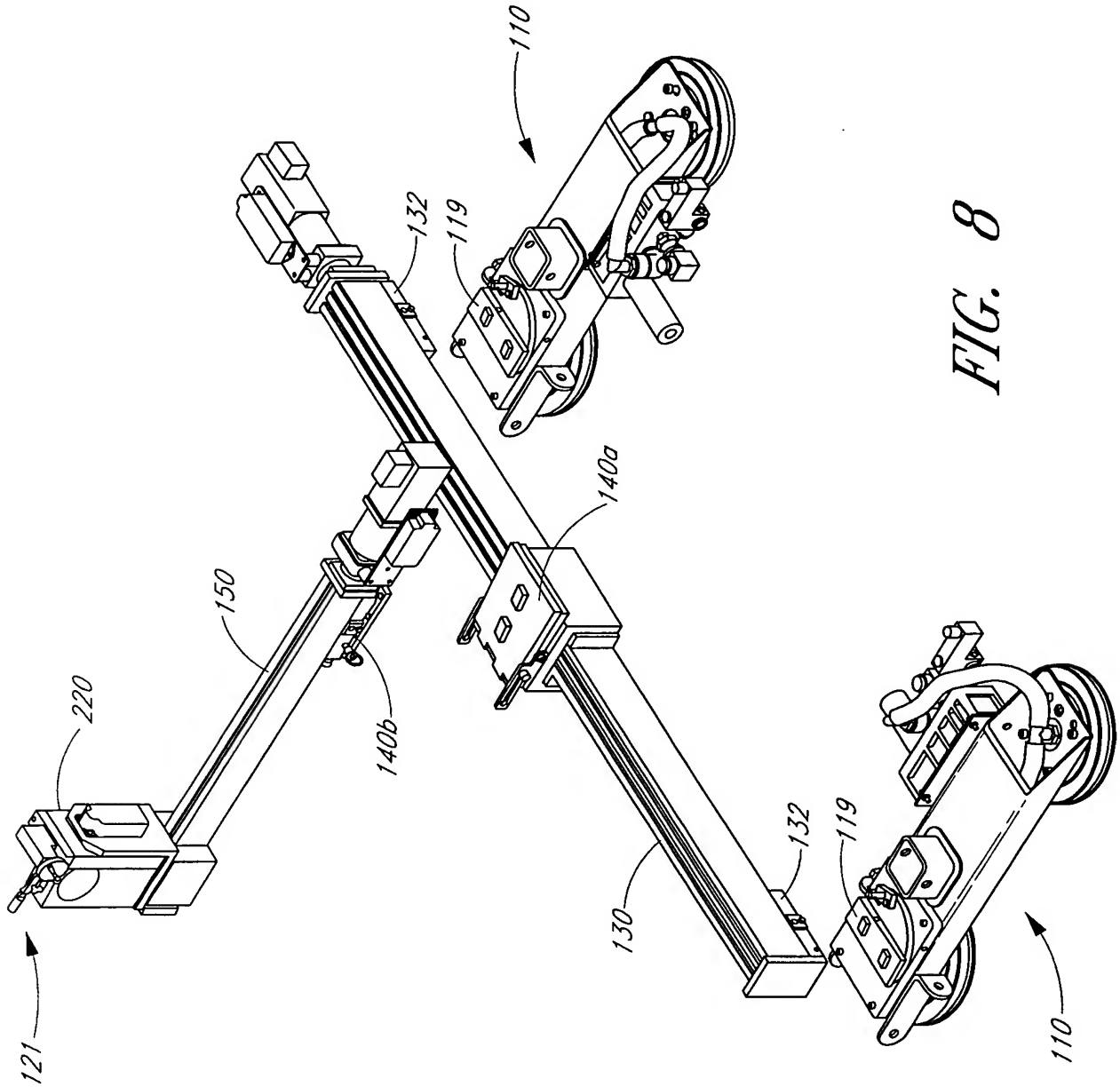


FIG. 7



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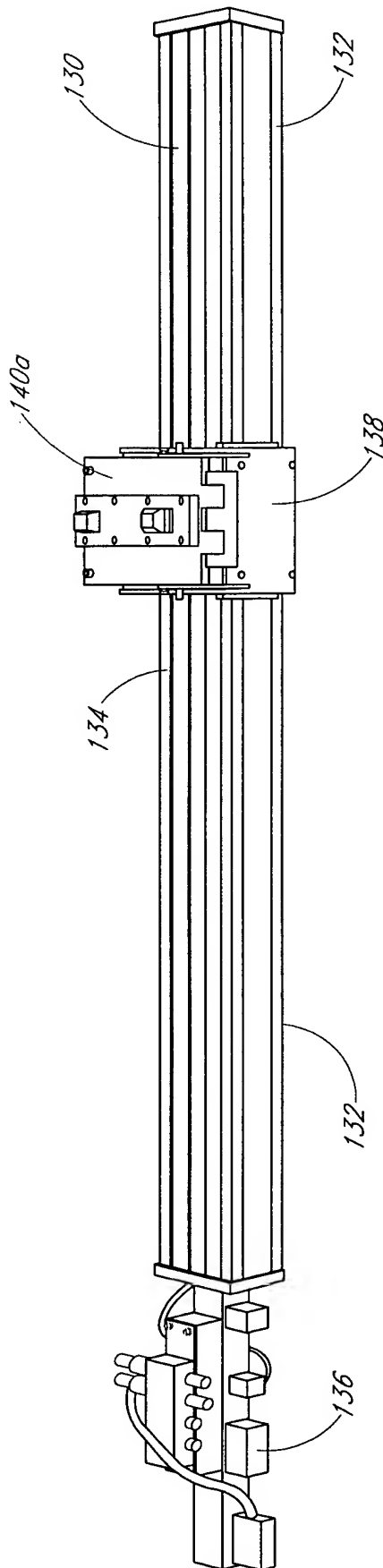


FIG. 9

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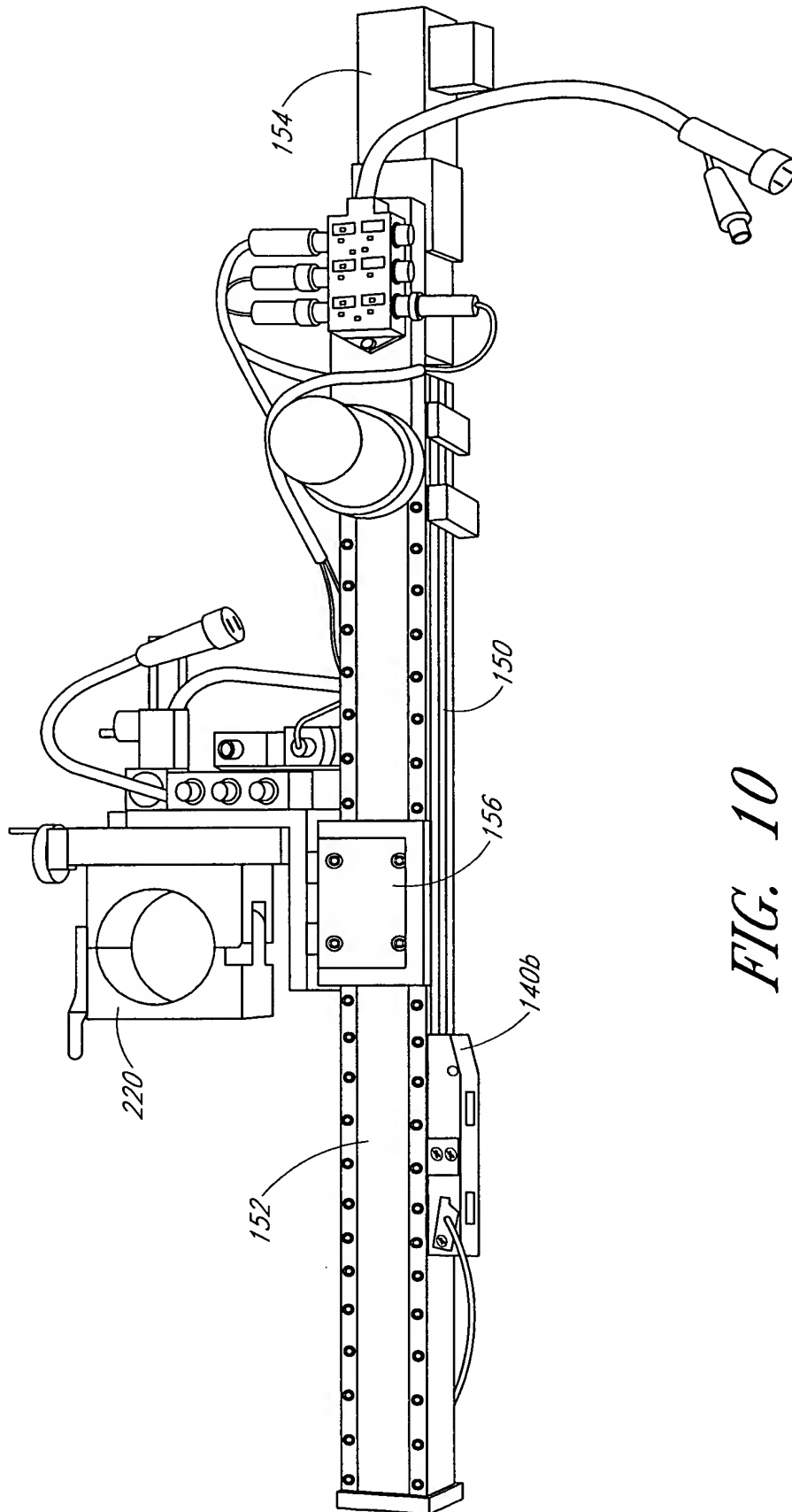
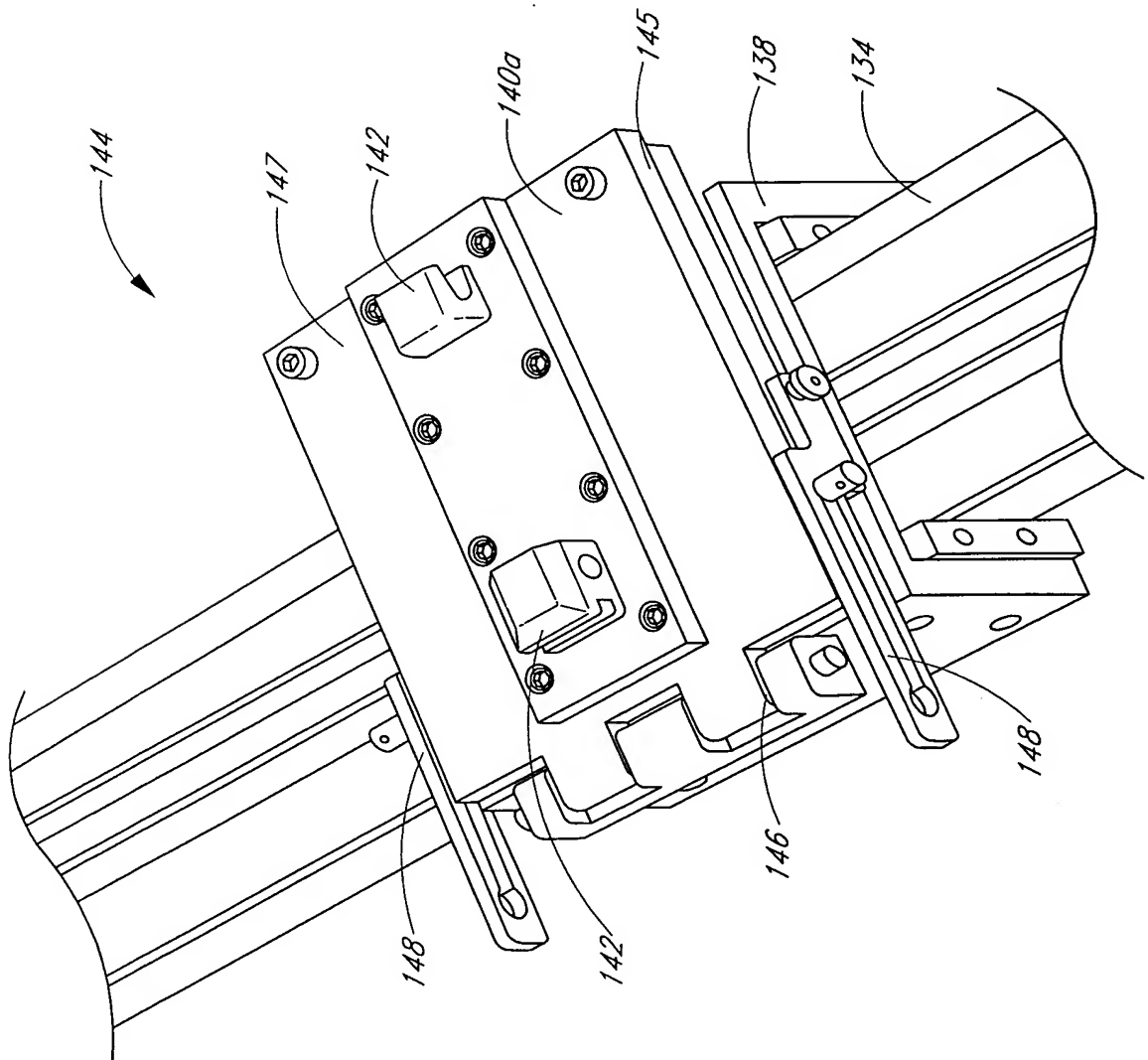


FIG. 10

FIG. 11A



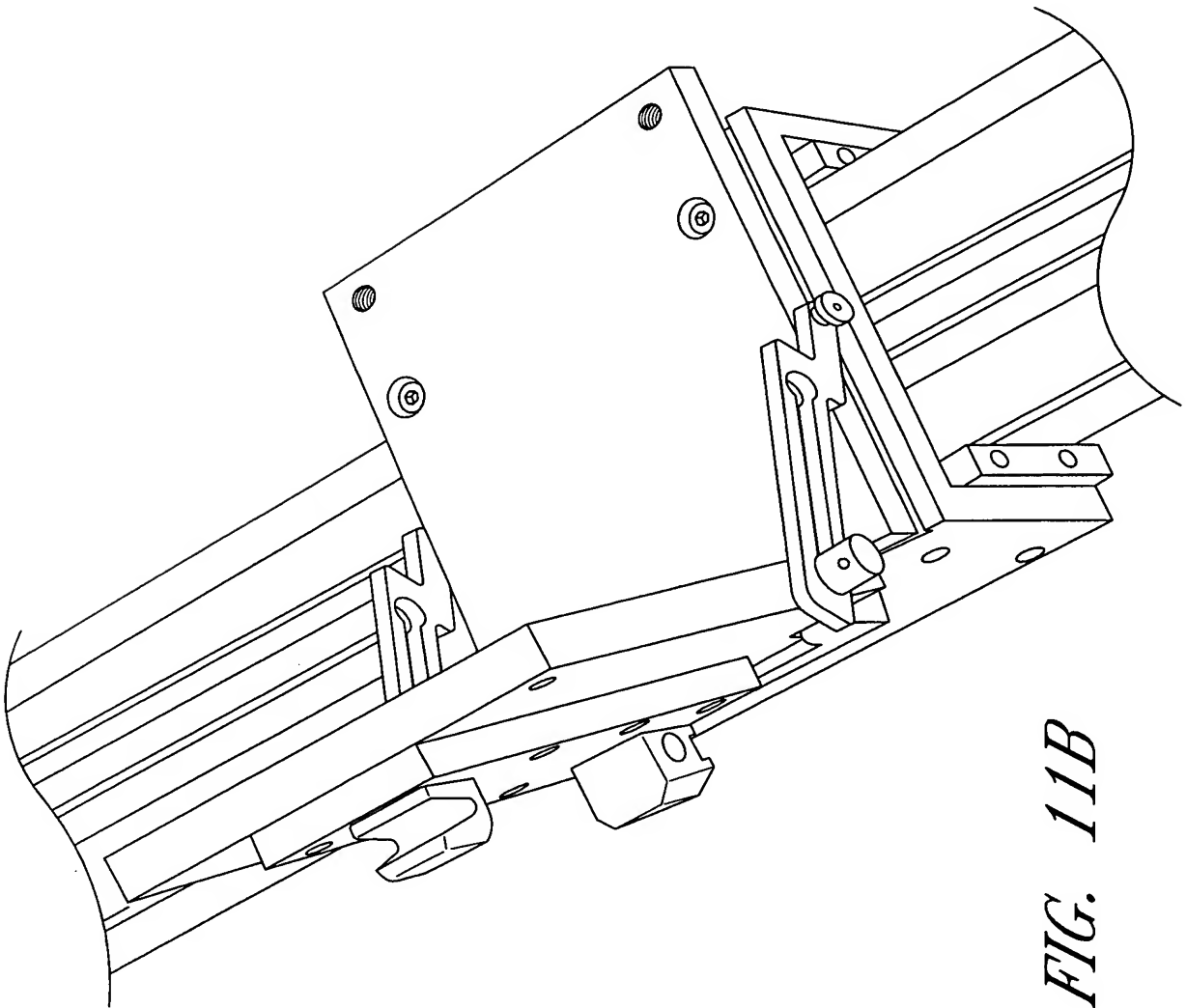


FIG. 11B

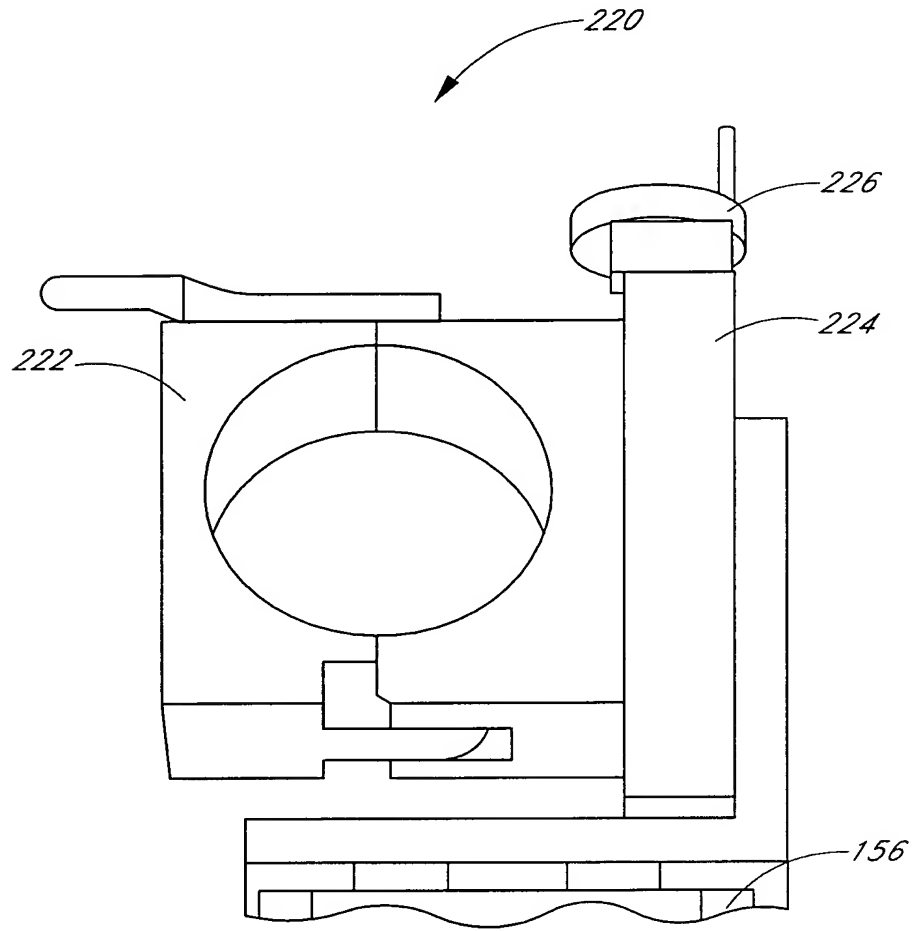


FIG. 12

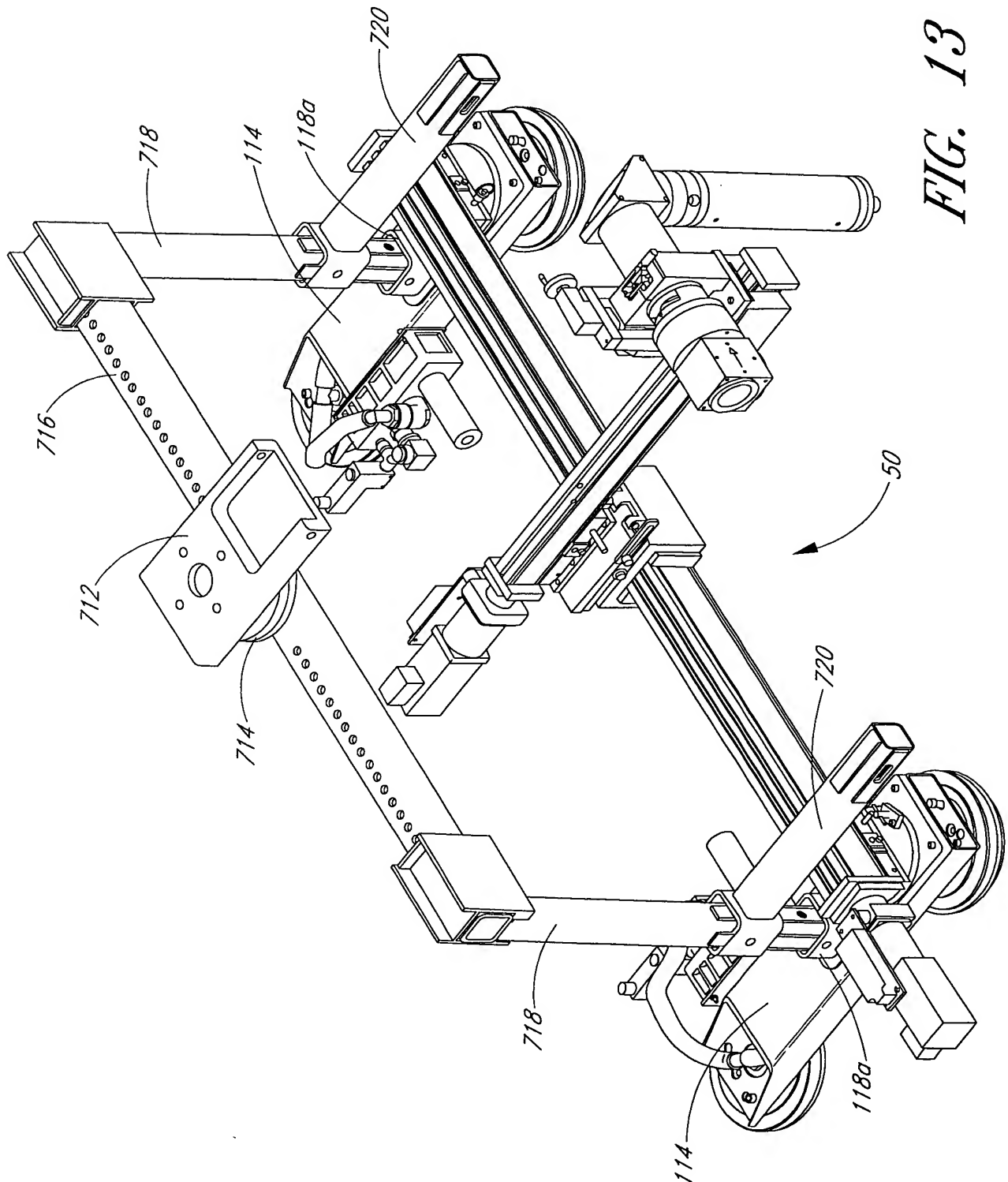


FIG. 13

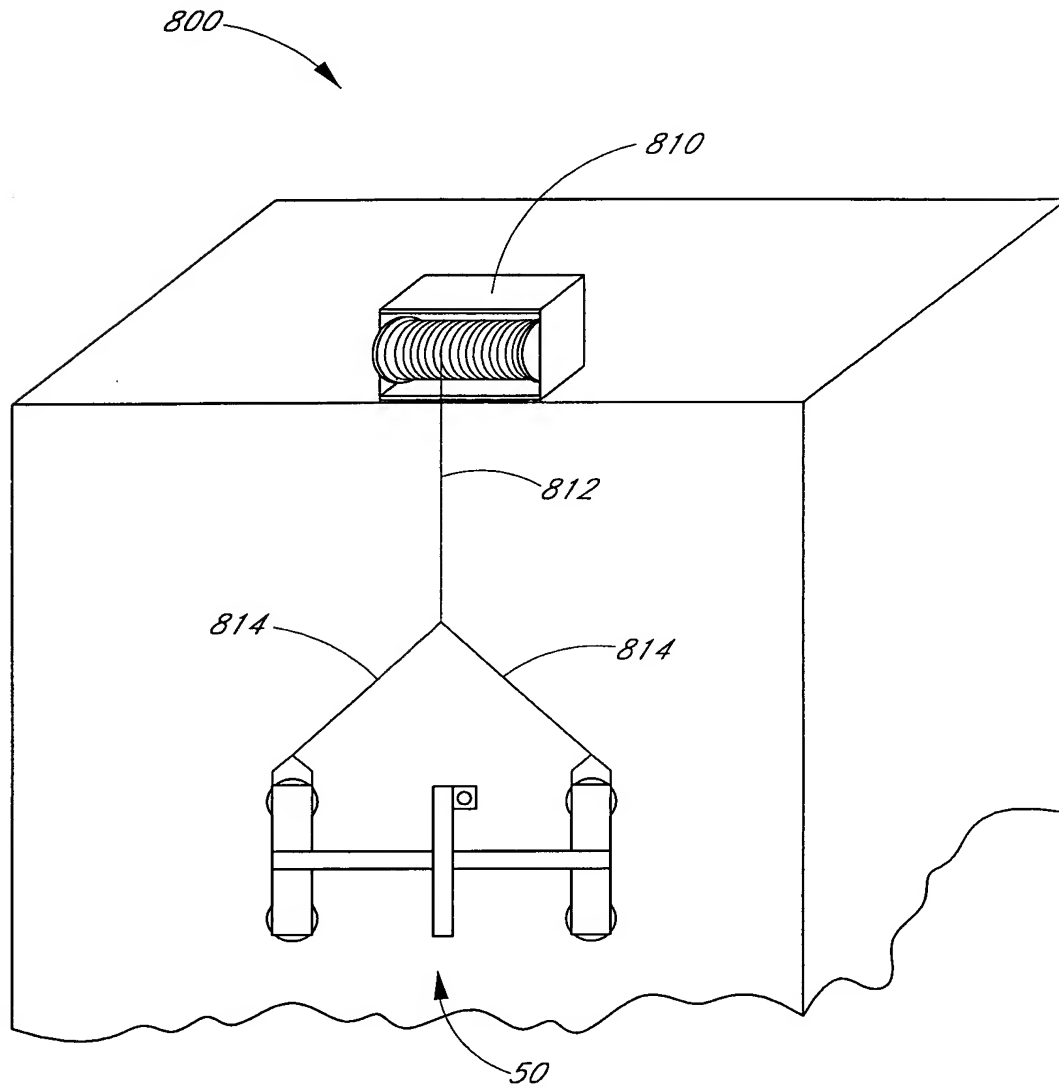


FIG. 14A

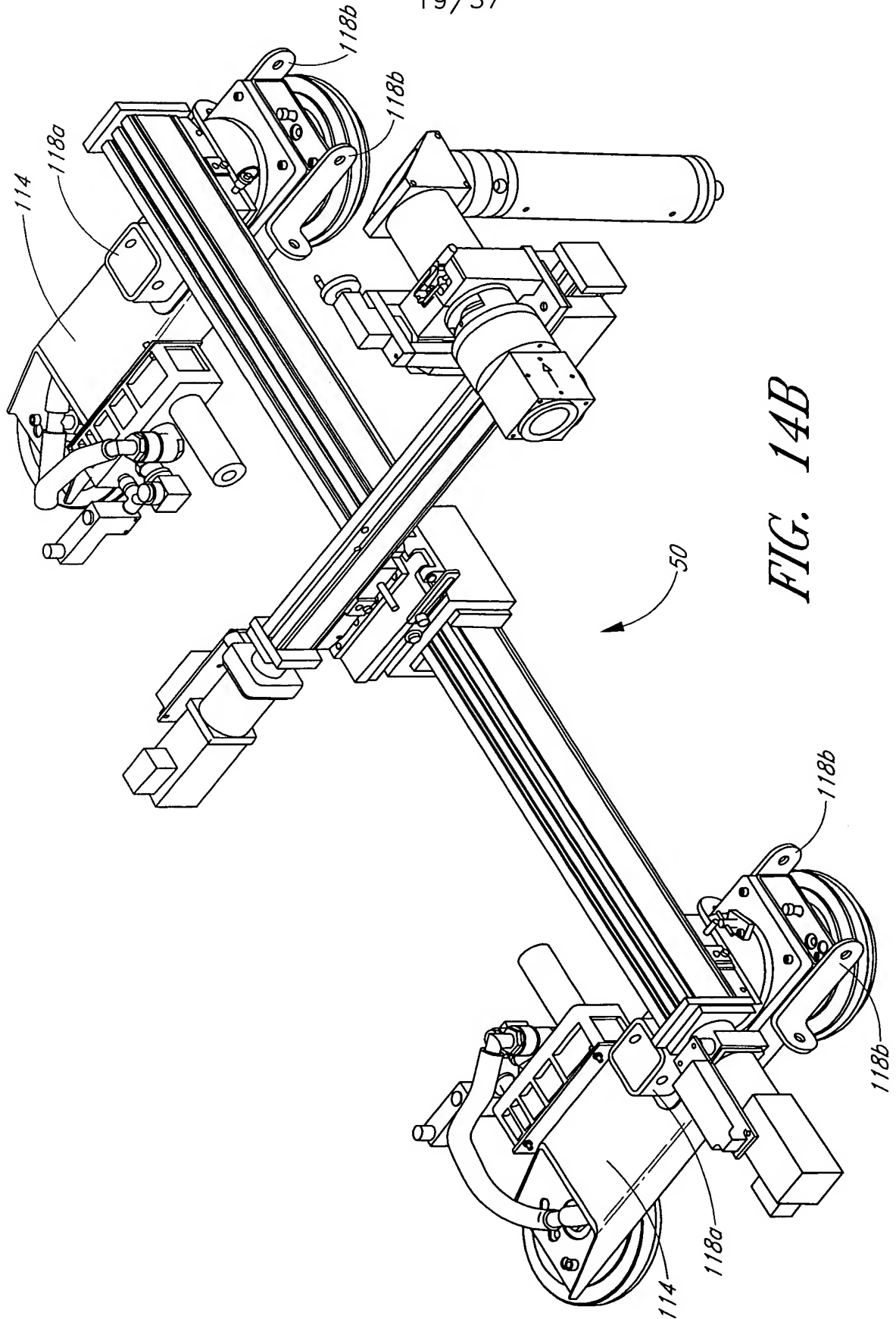


FIG. 14B

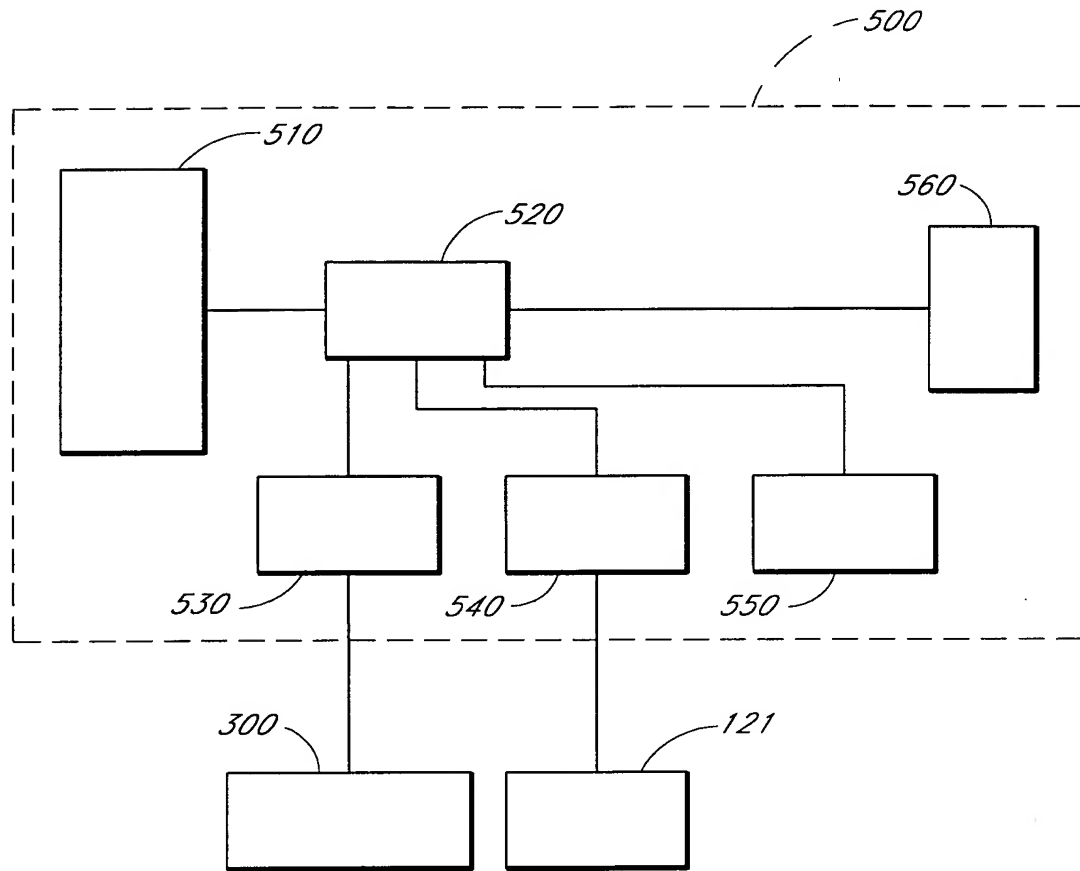


FIG. 15

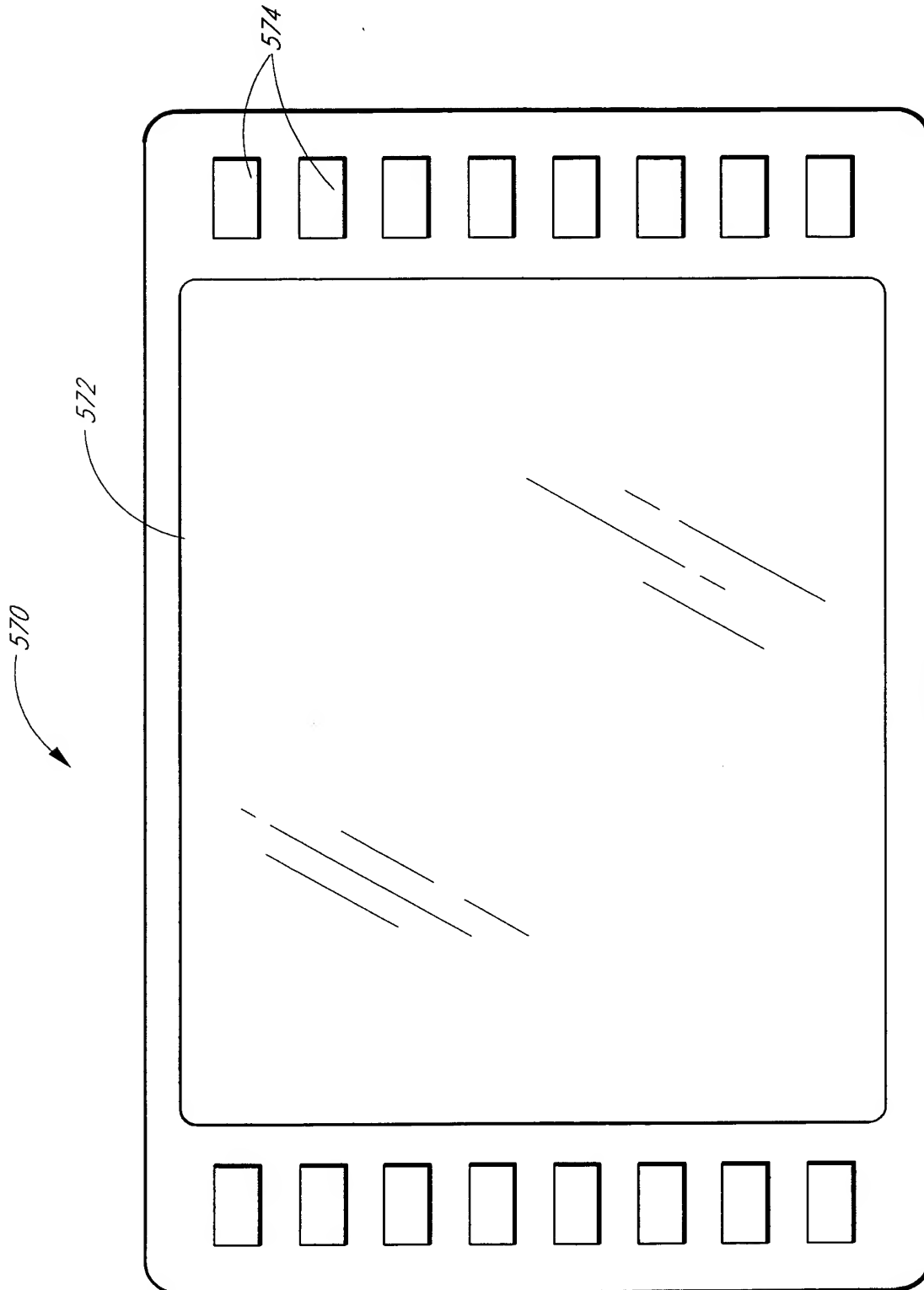


FIG. 16

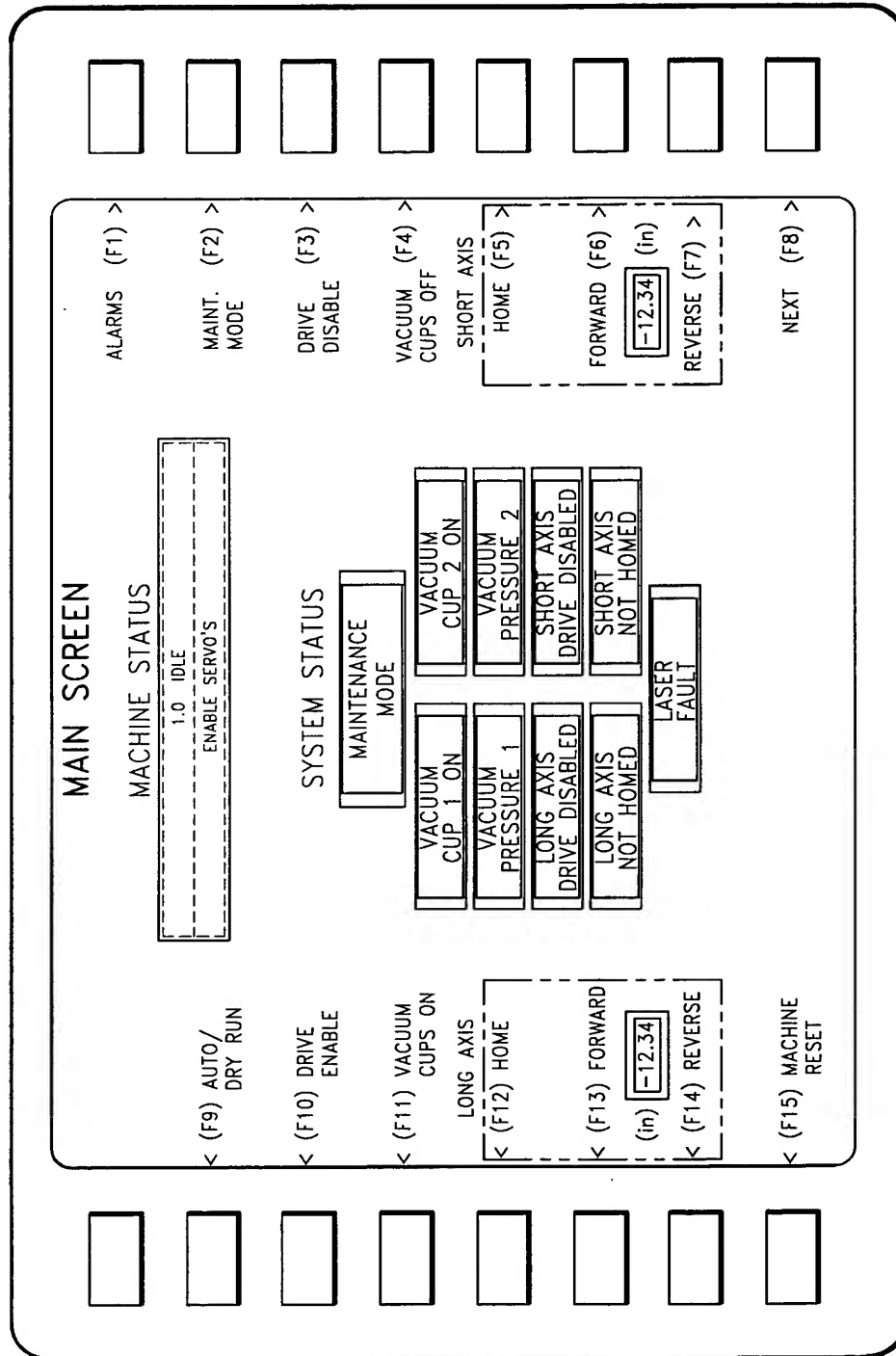


FIG. 17A

SELECT OPERATION SCREEN

MACHINE STATUS

1.0 IDLE
ENABLE SERVO'S

SHORT AXIS POSITION

-12.34 (in)

LONG AXIS POSITION

-12.34 (in)

SYSTEM STATUS

MAINTENANCE MODE

CIRCLE IDLE

PIERCE IDLE

STRAIGHT CUT IDLE

SURFACE KEYING IDLE

< (F9) AUTO/ DRY RUN

< (F11) CIRCLE

< (F12) PIERCE

< (F13) STRAIGHT CUT

< (F14) SURFACE KEYING

< (F15) MACHINE RESET

NEXT (F8) >

FIG. 17B

FIG. 17C

PIERCE SETUP/OPERATION SCREEN

< (F9) AUTO/
DRY RUN

MACHINE STATUS

1.0 IDLE
ENABLE SERVO'S

PIERCE STATUS

3.0 PIERCE SEQUENCE IDLE
PRESS CYCLE START TO BEGIN

SYSTEM STATUS

MAINTENANCE
MODE

LONG AXIS
POSITION

-12.34 (in)

SHORT AXIS
POSITION

-12.34 (in)

PIERCE PARAMETERS

TIME (sec)	LBU PROGRAM NUMBER
STATUS 1234	STATUS 12
SET POINT 1234	SET POINT 12

CYCLE (F4) >
STOP

NEXT (F8) >

< (F11) CYCLE
START

< (F15) MACHINE
RESET

FIG. 17D

CUT SETUP/OPERATION SCREEN

< (F9) AUTO/
DRY RUN

MACHINE STATUS

1.0 IDLE
ENABLE SERVO'S

CUT STATUS

4.0 CUT SEQUENCE IDLE
PRESS CYCLE START TO BEGIN

CYCLE (F4) >
STOP

< (F11) CYCLE
START

**LONG AXIS
POSITION**

-12.34 (in)

**SHORT AXIS
POSITION**

-12.34 (in)

SYSTEM STATUS
**MAINTENANCE
MODE**

< (F13) LONG
AXIS

SPEED (in/min)

STATUS -12.34
SET POINT -12.34

LENGTH (in)

STATUS -12.34
SET POINT -12.34

LBU PROGRAM NUMBER

STATUS 12
SET POINT 12

< (F14) SHORT
AXIS

LONG AXIS NOT SELECTED

SHORT AXIS NOT SELECTED

< (F15) MACHINE
RESET

NEXT (F8) >

FIG. 17E

SURFACE KEYING SETUP/OPERATION SCREEN

< (F9) AUTO/
DRY RUN

MACHINE STATUS

1.0 IDLE
ENABLE SERVO'S

SURFACE KEYING STATUS

5.0 KEYING SEQUENCE IDLE
PRESS CYCLE START TO BEGIN

< (F11) CYCLE
START

SYSTEM STATUS

MAINTENANCE
MODE

SURFACE KEYING PARAMETERS

LONG AXIS
POSITION

-12.34 (in)

PROGRAM NUMBER

12

SHORT AXIS
LENGTH (in)

-12.34 (in)

STATUS -12.34
SET POINT -12.34

SPEED (in/min)

-12.34

STATUS -12.34
SET POINT -12.34

LONG AXIS
LENGTH (in)

-12.34 (in)

STATUS -12.34
SET POINT -12.34

< (F15) MACHINE
RESET

CYCLE (F4) >
STOP

NEXT (F8) >

FIG. 17F

Diagram of the FAULT SCREEN interface. The screen is divided into three main sections. The top section contains the title "FAULT SCREEN" and three function keys: "RETURN (F1) >", "ACK ALL (F3) >", and "NEXT (F8) >". The middle section is a large rectangular area containing a table with three columns: "mm/dd/yy", "Trig", and "Message". The bottom section contains two function keys: "< (F9) AUTO/ DRY RUN" and "< (F15) MACHINE RESET". The screen is flanked by two vertical columns of eight rectangular buttons each.

FIG. 17G.

MAINTENANCE SCREEN

WARNING:
OPERATION FROM THIS SCREEN
BYPASSES SYSTEM INTERLOCKS

SYSTEM STATUS

MAINTENANCE
MODE

VACUUM
CUP 1 ON

VACUUM
CUP 2 ON

VACUUM
PRESSURE 1

VACUUM
PRESSURE 2

LONG AXIS
DRIVE DISABLED

SHORT AXIS
DRIVE DISABLED

LASER AIR
SOLENOID OFF

LASER AIR
PRESSURE

LONG AXIS
NOT HOMED

SHORT AXIS
NOT HOMED

LASER
FAULT

ALARMS (F1) >

LASER AIR (F2) >
ON/OFF

DRIVE (F3) >
DISABLE

VACUUM (F4) >
CUPS OFF

SHORT AXIS
HOME (F5) >

FORWARD (F6) >
[-12.34] (in)

REVERSE (F7) >

NEXT (F8) >

< (F9) AUTO/
DRY RUN

< (F10) DRIVE
ENABLE

< (F11) VACUUM
CUPS ON

LONG AXIS
< (F12) HOME

< (F13) FORWARD
[-12.34] (in)

< (F14) REVERSE

< (F15) MACHINE
RESET

JOG SPEED
(in/min)

STATUS
[-12.34]

SET POINT
[-12.34]

FIG. 17H

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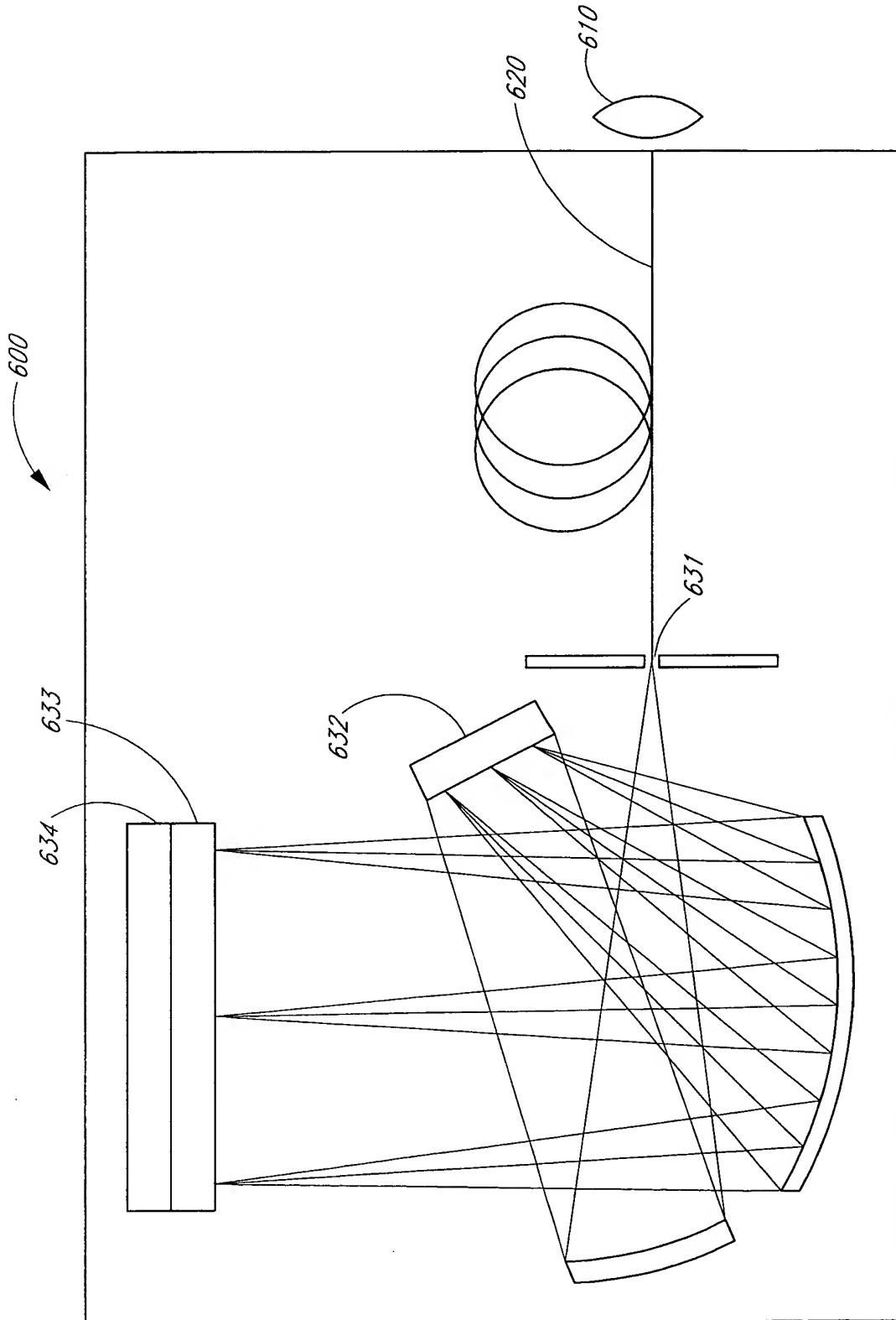


FIG. 18A

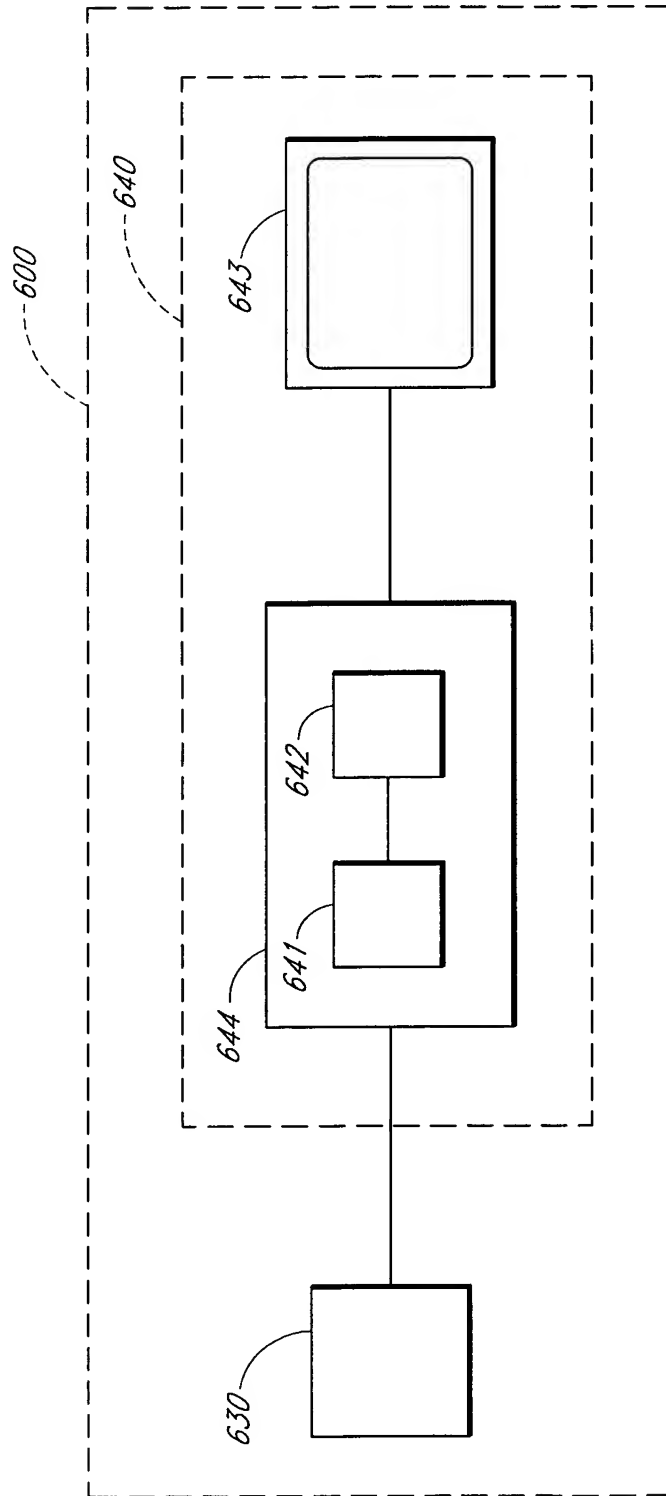


FIG. 18B

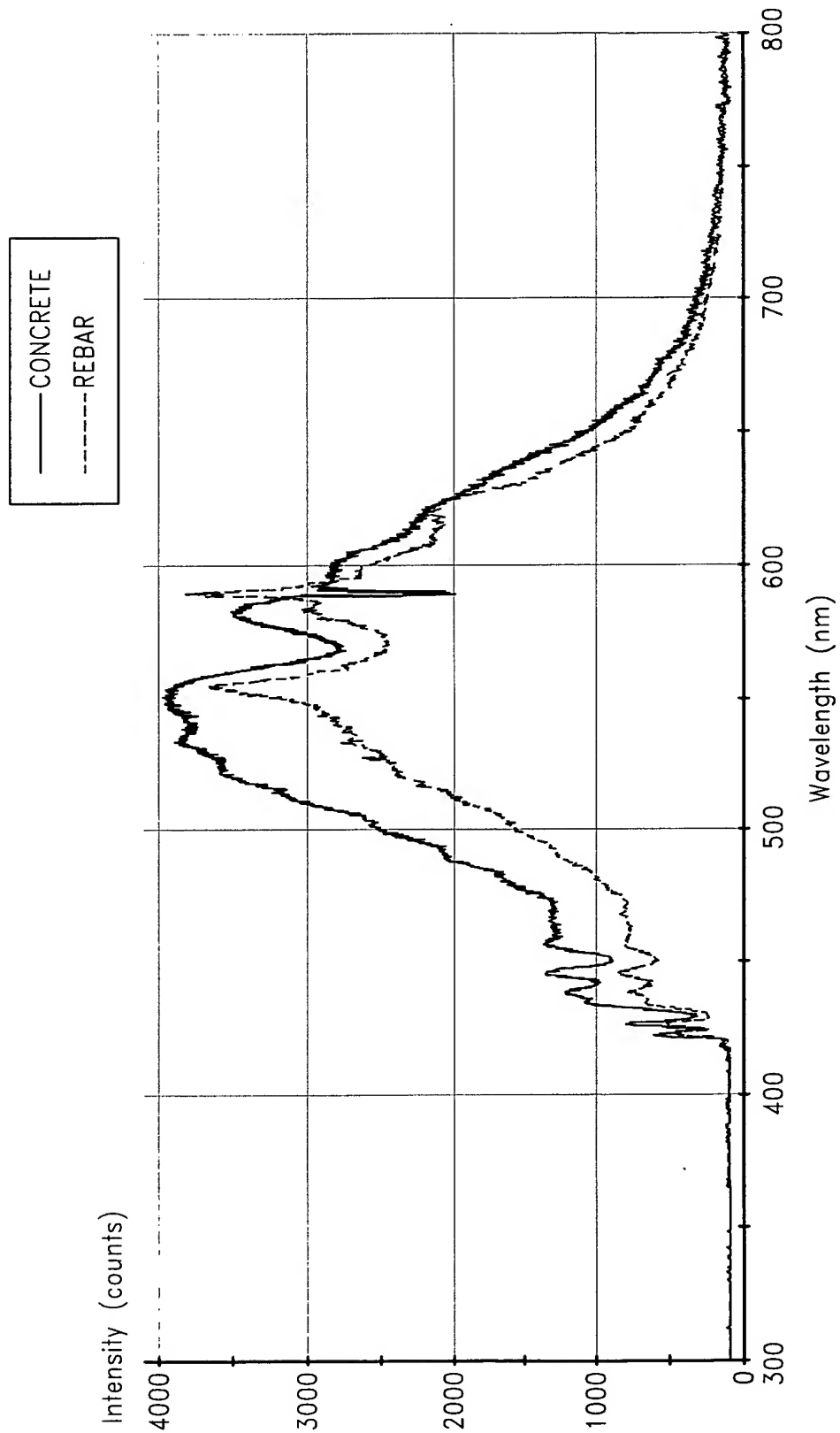


FIG. 19

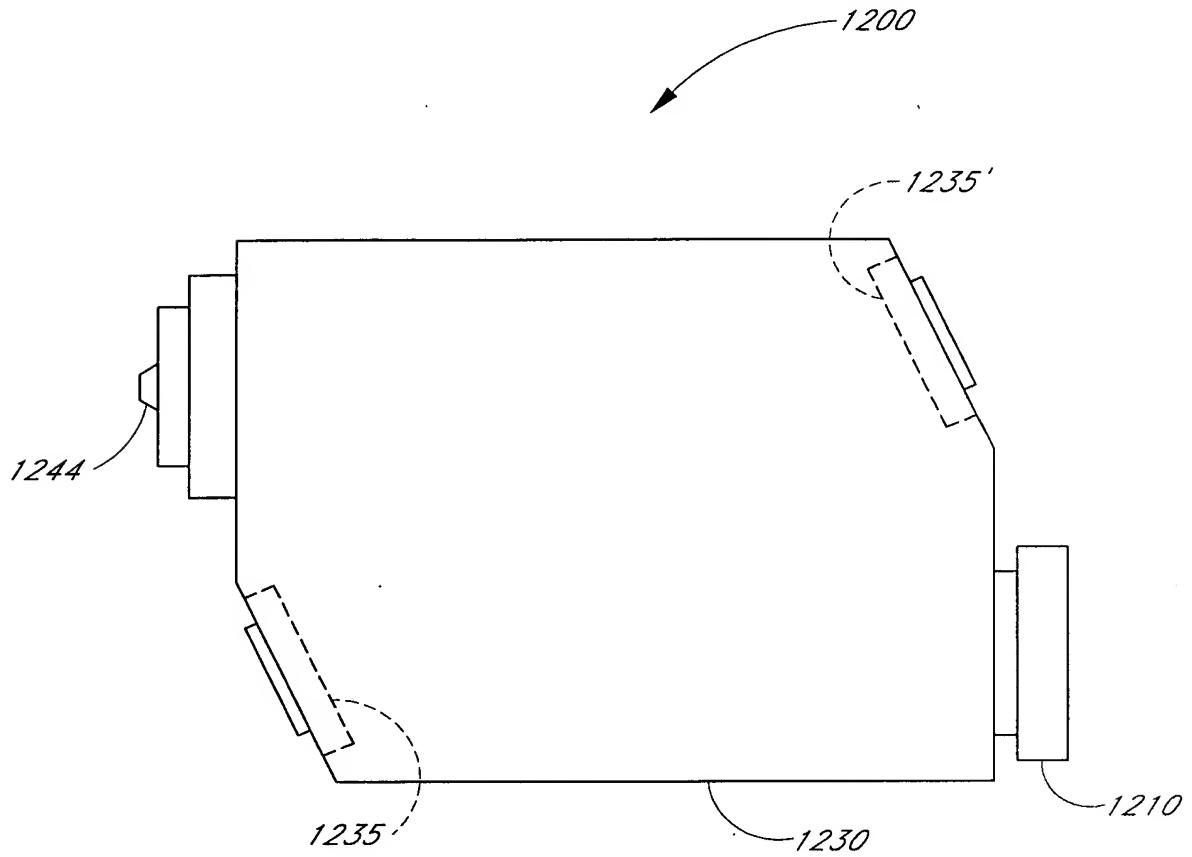


FIG. 20

FIG. 21A

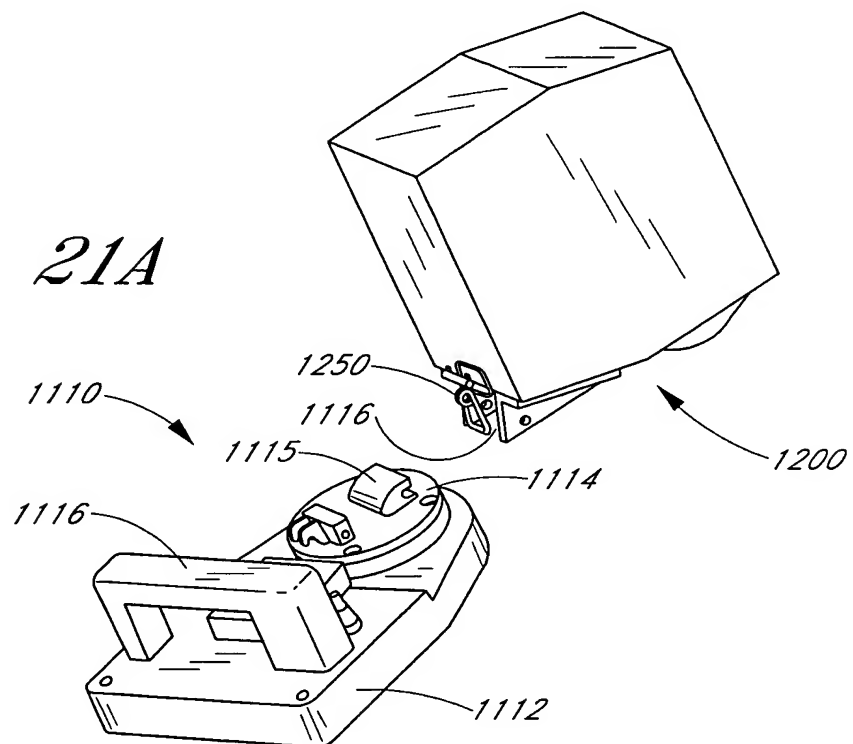
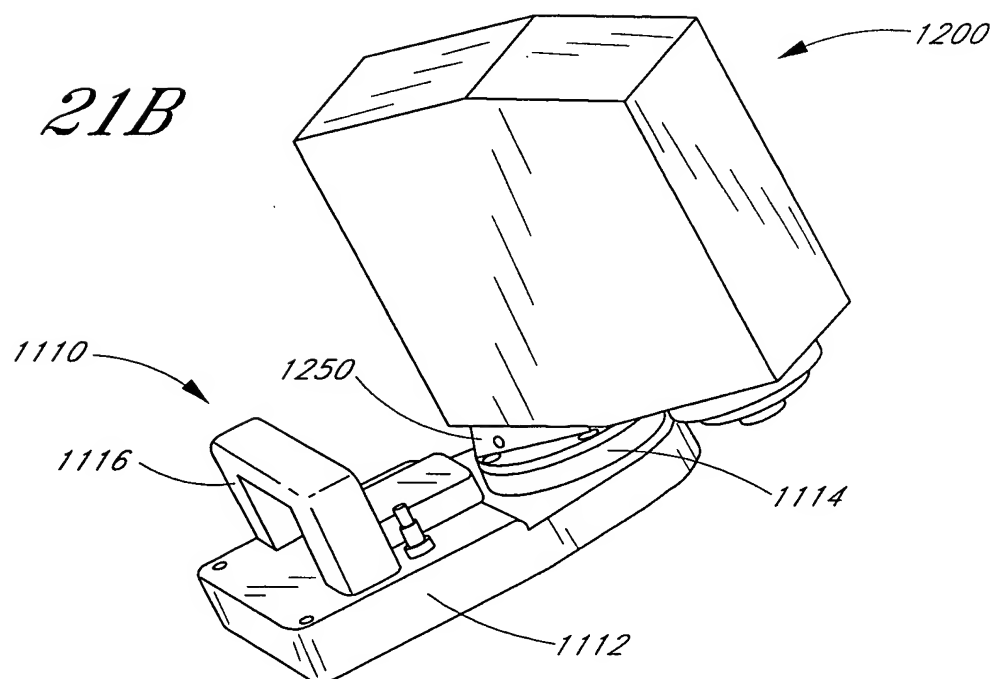


FIG. 21B



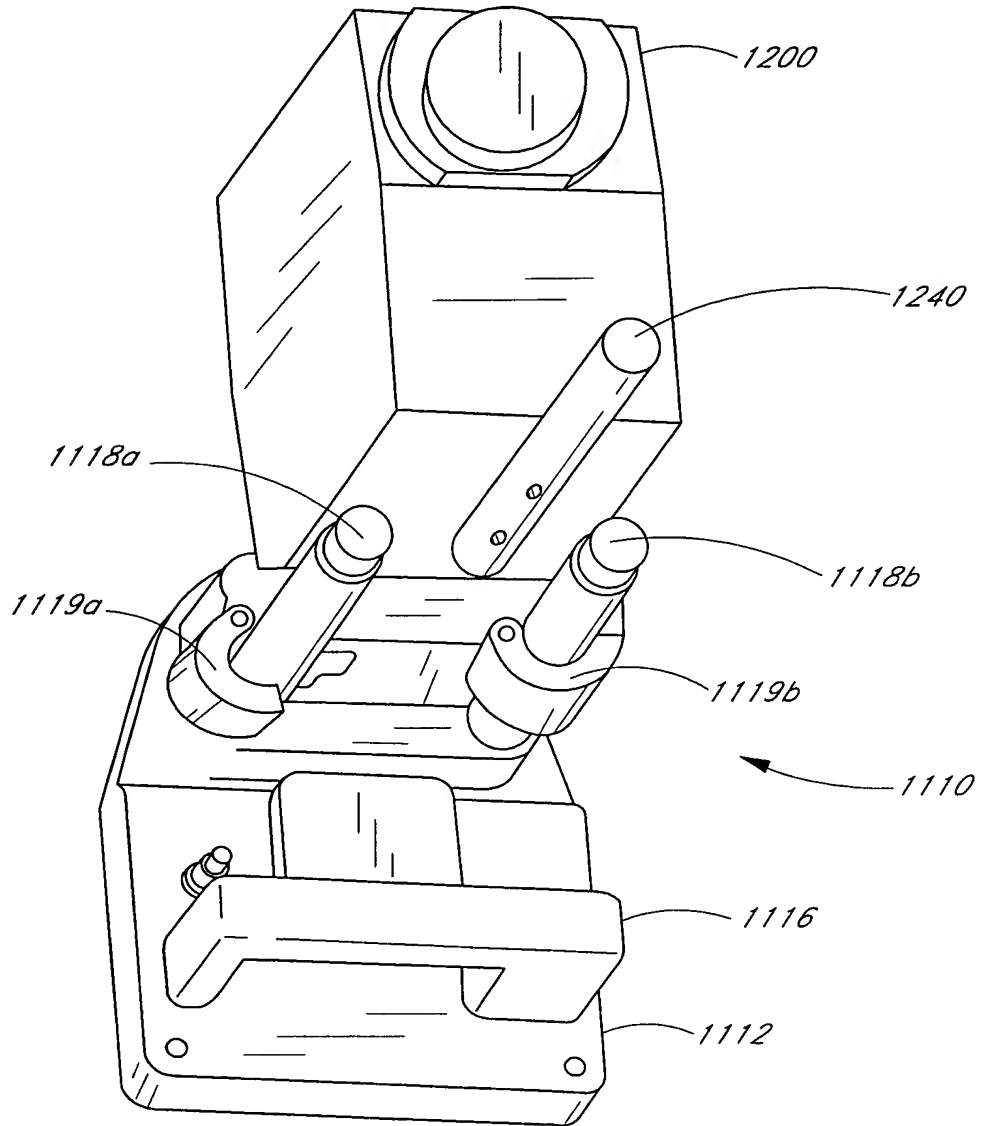


FIG. 21C

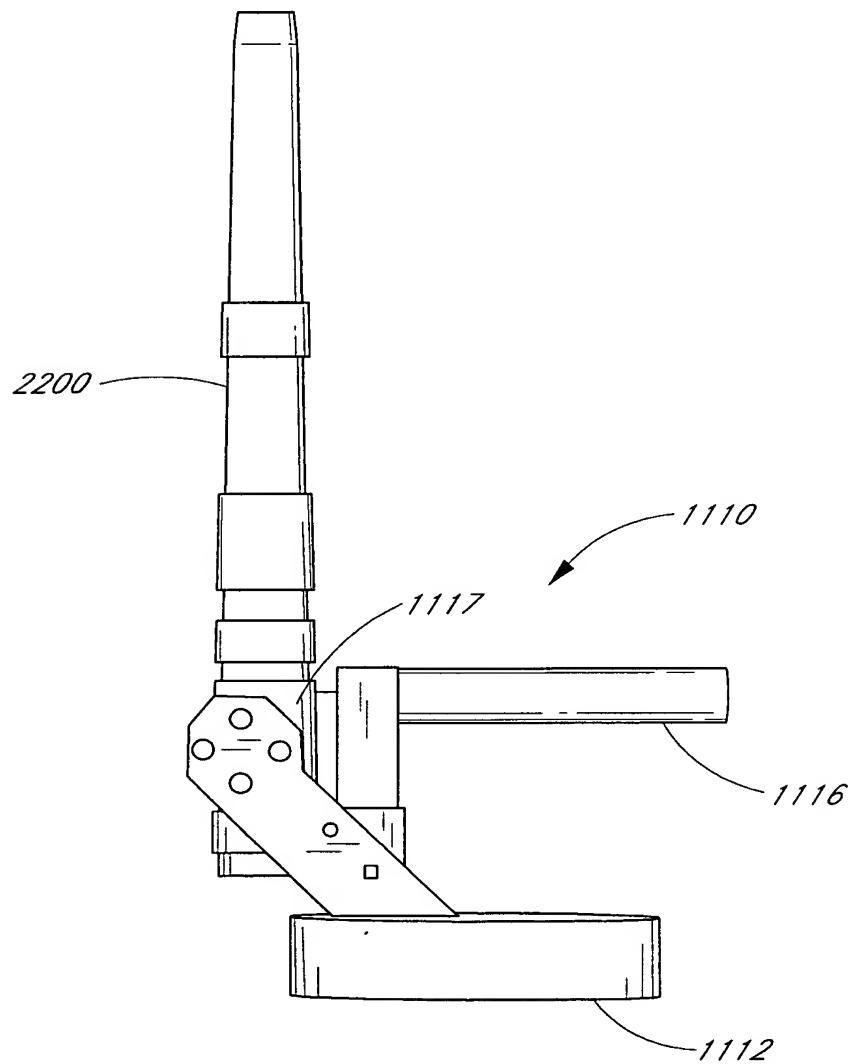


FIG. 21D

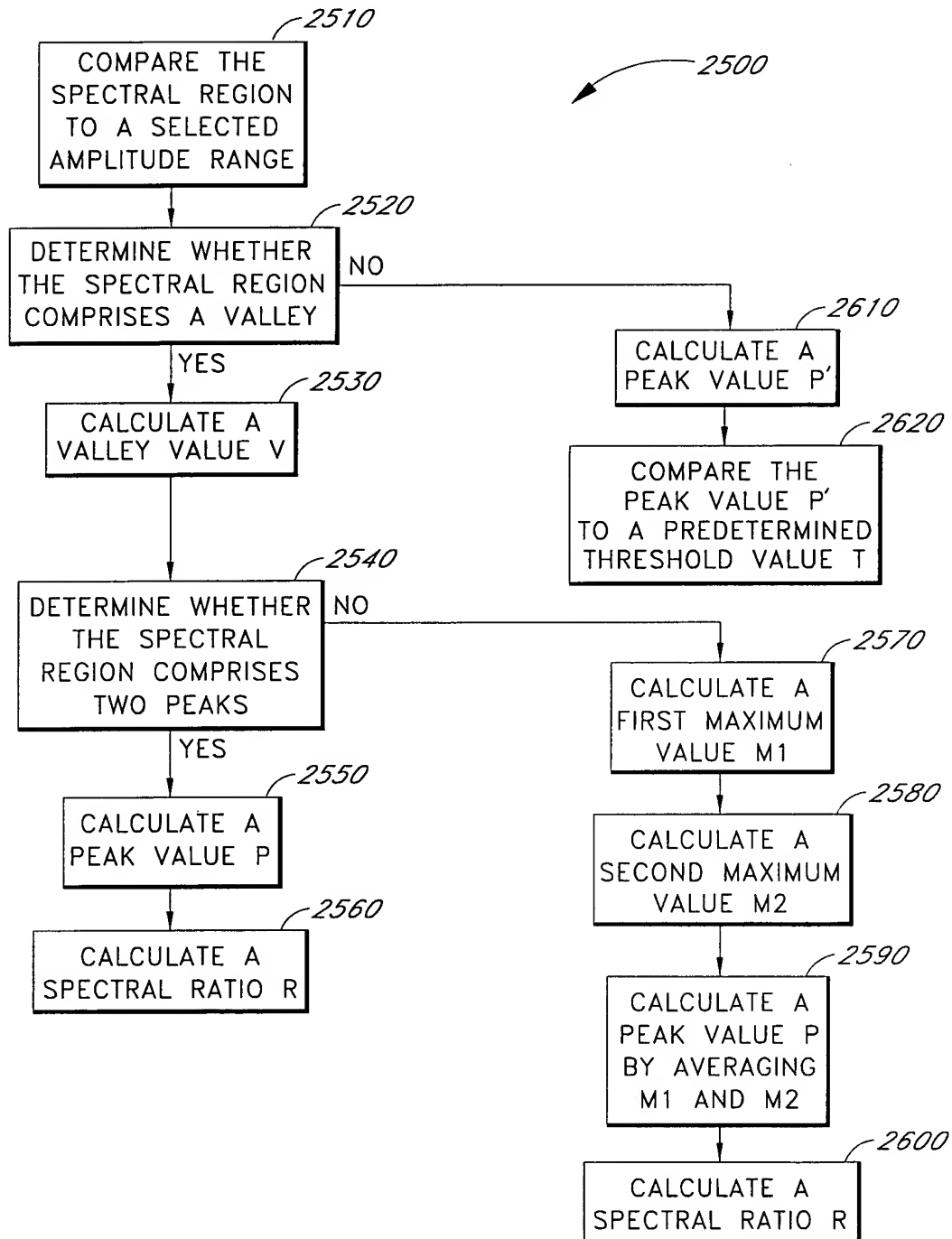


FIG. 22